

IN THE CLAIMSCOMPLETE LISTING OF ALL CLAIMS, WITH MARKINGS AND STATUS IDENTIFIERS

This listing of claims will replace all prior versions and listings of the claims in the application.

1. (currently amended) A compound according to formula (I):



(I)

wherein:

X is a cytotoxic or cytostatic agent;

each of B¹, B², B³, and B⁴ is, independently for each occurrence, (Doc)_m, (Aepa)_n, -(C(O)-A1-A2-A3-A4-A5-C(O))_s- or (amino acid)_p provided that at least one of B¹, B², B³, or B⁴ is -(C(O)-A1-A2-A3-A4-A5-C(O))_s-;

each of A1 and A5 is, independently for each occurrence, CR¹R²;

each of R¹ and R² is, independently for each occurrence, H, F, Br, Cl, I, C(₁₋₃₀)alkyl, C(₂₋₃₀)alkenyl, substituted C(₁₋₃₀)alkyl, substituted C(₂₋₃₀)alkenyl, SR³, S(O)R⁴, or S(O)₂R⁵, or R¹ and R² together can form a C(₃₋₃₀)cycloalkyl, C(₃₋₃₀)heterocycle, or C(₅₋₃₀)aryl ring;

each of R³, R⁴, and R⁵ is, independently for each occurrence, C(₁₋₃₀)alkyl, C(₂₋₃₀)alkenyl, substituted C(₁₋₃₀)alkyl, or substituted C(₂₋₃₀)alkenyl;

each of A², A³, and A⁴ is, independently for each occurrence, CR⁶R⁷, O, S, (CH₂)_t or absent;

each of R⁶ and R⁷ is, independently for each occurrence, H, F, Br, Cl, I, C(₁₋₃₀)alkyl, C(₂₋₃₀)alkenyl, substituted C(₁₋₃₀)alkyl, substituted C(₂₋₃₀)alkenyl, SR³, S(O)R⁴, or S(O)₂R⁵; or R⁶ and R⁷ together may form a ring system;

m is, independently for each occurrence, 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, or 10;

n is, independently for each occurrence, 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, or 10;

p is, independently for each occurrence, 0, 1, or 2;

s is, independently for each occurrence, 1, 2, 3, 4, or 5;

t is, independently for each occurrence, 0, 1, 2, or 3; and

Z is a ligand of a biological receptor, an analog thereof, or a derivative of said ligand or of said analog selected from the group consisting of somatostatin, LHRH and bombesin;

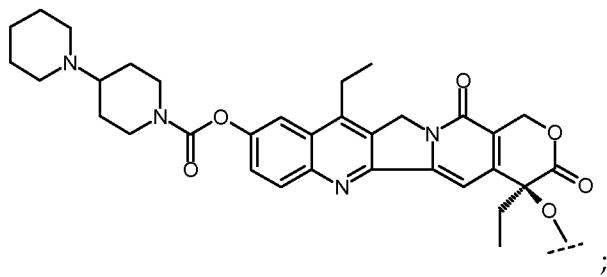
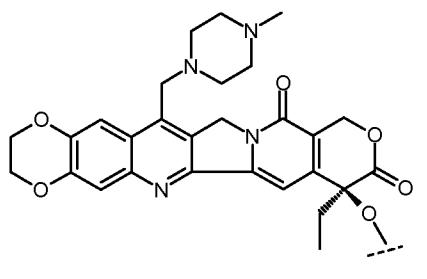
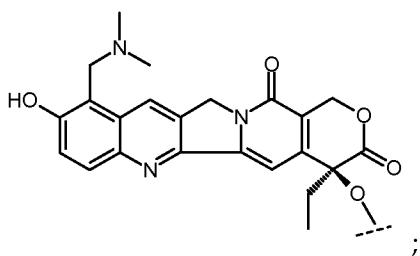
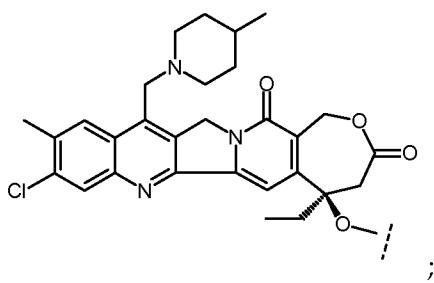
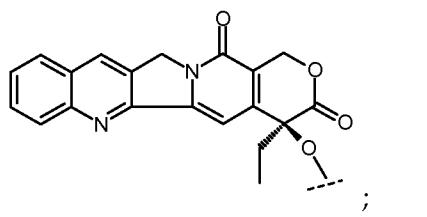
provided that:

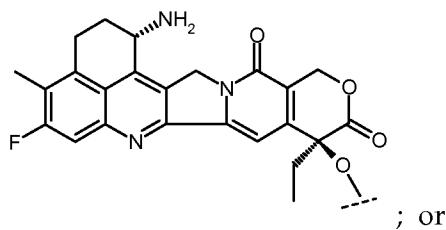
when X is doxorubicin or a doxorubicin derivative, at least one of m and n is not 0; and

when X is paclitaxel or a paclitaxel derivative, then B¹ is (amino acid)_p and p is 1 or 2;

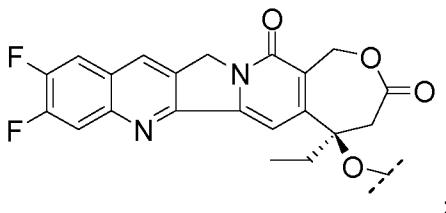
or a pharmaceutically acceptable salt thereof.

2. (Currently amended) A The compound according to claim 1, wherein X is a cytotoxic moiety; or a pharmaceutically acceptable salt thereof.[-]
3. (Currently amended) A The compound according to claim 2, wherein X is an anthracycline; or a pharmaceutically acceptable salt thereof.[-]
4. (Currently amended) A The compound according to claim 3, wherein X is doxorubicin, or a doxorubicin derivative; or a pharmaceutically acceptable salt thereof.
5. (Currently amended) A The according to claim 2, wherein X is camptothecin, a camptothecin derivative, paclitaxel, or a paclitaxel derivative.
6. (Currently amended) A The according to claim 5, wherein said camptothecin derivative is:





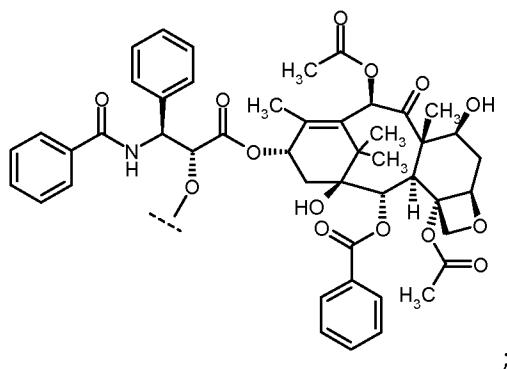
; or



;

or a pharmaceutically acceptable salt thereof.

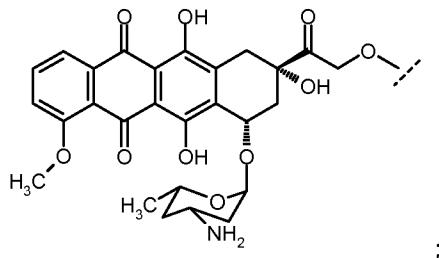
7. (Currently amended) A The compound according to claim 5, wherein X is paclitaxel or a paclitaxel derivative, wherein said paclitaxel derivative is:



;

or a pharmaceutically acceptable salt thereof.

8. (Currently amended) A The compound according to claim 4, wherein X is doxorubicin or a doxorubicin derivative, wherein said doxorubicin derivative is:



;

or a pharmaceutically acceptable salt thereof.

9. (cancelled)

10. (Currently amended) ~~A~~ The compound according to claim 9, wherein Z is a somatostatin analog according to the formula:

-D^NHe-cyclo(Cys-Tyr-DTrp-Lys-Abu-Cys)-Thr-NH₂;
-D^NHe-cyclo(Cys-3ITyr-DTrp-Lys-Val-Cys)-Thr-NH₂;
-D^NHe-cyclo(Cys-3ITyr-DTrp-Lys-Abu-Cys)-Thr-NH₂;
-D^NHe-cyclo(Cys-3ITyr-DTrp-Lys-Thr-Cys)-Thr-NH₂;
-Lys-DTyr-DTyr-cyclo(Cys-Tyr-DTrp-Lys-Abu-Cys)-Thr-NH₂;
-Caeg-cyclo(DCys-Pal-DTrp-Lys-DCys)-Thr(Bzl)-Tyr-NH₂;
-D2Nal-cyclo[Cys-Tyr-DTrp-Lys-Val-Cys]-Thr-NH₂;
-D^NHe-cyclo[Cys-Phe-DTrp-Lys-Thr-Cys]-Thr-ol;
-cyclo({4-(-NH-C₂H₄-NH-CO-O)Pro}-Phg-DTrp-Lys-Tyr(4-Bzl)-Phe); or
-D^NHe-cyclo[Cys-Tyr-DTrp-Lys-Val-Cys]-Trp-NH₂;

or a pharmaceutically acceptable salt thereof.

11. (Currently amended) ~~A~~ The compound according to claim 9, wherein Z is an LHRH analog according to the formula:

Glp-His-Trp-Ser-Tyr-DLys(-)-Leu-Arg-Pro-Gly-NH₂;

Glp-His-Trp-Ser-Tyr-DOrn(-)-Leu-Arg-Pro-Gly-NH₂;

Glp-His-Trp-Ser-Tyr-DDab(-)-Leu-Arg-Pro-Gly-NH₂;

Glp-His-Trp-Ser-Tyr-DDap(-)-Leu-Arg-Pro-Gly-NH₂;

Glp-His-Trp-Ser-Tyr-DApA(-)-Leu-Arg-Pro-Gly-NH₂;

Glp-His-Trp-Ser-Tyr-DLys(-)-Leu-Arg-Pro-NHEt;

Glp-His-Trp-Ser-Tyr-DOrn(-)-Leu-Arg-Pro-NHEt;
Glp-His-Trp-Ser-Tyr-DDab(-)-Leu-Arg-Pro-NHEt;
Glp-His-Trp-Ser-Tyr-DDap(-)-Leu-Arg-Pro-NHEt;
Glp-His-Trp-Ser-His-DLys(-)-Trp-Tyr-Pro-Gly-NH₂;
Glp-His-Trp-Ser-His-DOrn(-)-Trp-Tyr-Pro-Gly-NH₂;
Glp-His-Trp-Ser-His-DDab(-)-Trp-Tyr-Pro-Gly-NH₂; or
Glp-His-Trp-Ser-His-DDap(-)-Trp-Tyr-Pro-Gly-NH₂;
or a pharmaceutically acceptable salt thereof.

12. (Currently amended) A The compound according to claim 9, wherein Z is a bombesin analog according to the formula:

-Gln-Trp-Ala-Ala-βAla -His-Phe-Nle-NH₂; (SEQ ID NO: 8)
-Gln-Trp-Ala-Val-Gly-His-Leu-Ψ(CH₂-NH)-Leu-NH₂; (SEQ ID NO: 9)
-Gln-Trp-Ala-Val-Gly-His-Leu-Ψ(CH₂-NH)-Phe-NH₂; (SEQ ID NO: 10)
-Gln-Trp-Ala-Val-βAla-His-Leu-Leu-NH₂; (SEQ ID NO: 11)
-Gln-Trp-Ala-Val-βAla-His-Leu-Nle-NH₂; (SEQ ID NO: 12)
-Gln-Trp-Ala-Val-βAla-His-Phe-Nle-NH₂; (SEQ ID NO: 13)
-Gln-Trp-Ala-Val-βAla -His-Ala-Nle-NH₂; (SEQ ID NO: 14)
-Gln-Trp-Ala-Val-βAla -Ala-Phe-Nle-NH₂; (SEQ ID NO: 15)
-Gln-Trp-Ala-Val-Gly-His-Leu-Leu-NH₂; (SEQ ID NO: 1)
-Gln-Trp-Ala-Val-Gly-His-Leu-Met-NH₂; (SEQ ID NO: 2)
-Gln-Trp-Ala-Val-Gly-His-Phe-Met-NH₂; (SEQ ID NO: 3)
-DAla-Gln-Trp-Ala-Val-βAla-His-Phe-Nle-NH₂;

-D^LPhe-Gln-Trp-Ala-Ala- β Ala-His-Phe-Nle-NH₂;

-D^LPhe-Gln-Trp-Ala-Val- β Ala-Ala-Phe-Nle-NH₂;

-D^LPhe-Gln-Trp-Ala-Val- β Ala-His-Phe-Nle-NH₂;

-D^LPhe-Gln-Trp-Ala-Val- β Ala-His-Phe-Nle-NH₂;

-D^LPhe-Gln-Trp-Ala-Val- β Ala-His-Ala-Nle-NH₂;

-D^LPhe-Gln-Trp-Ala-Val- β Ala-His-Leu-Leu-NH₂;

-D^LPhe-Gln-Trp-Ala-Val- β Ala-His-Leu-Nle-NH₂;

-D^LPhe-Gln-Trp-Ala-Val-Gly-His-Leu- Ψ (CH₂-NH)-Leu-NH₂;

-D^LPhe-Gln-Trp-Ala-Val-Gly-His-Leu- Ψ (CH₂-NH)-Phe-NH₂;

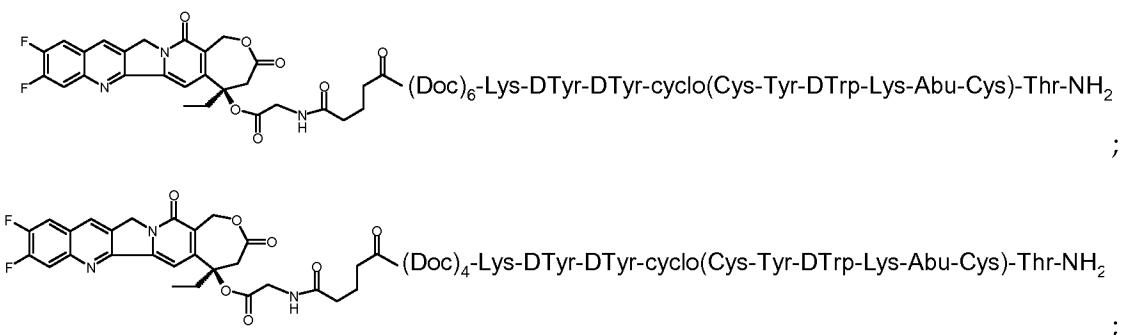
-D^LPhe-Gln-Trp-Ala-Val-Gly-His-Leu-Met-NH₂;

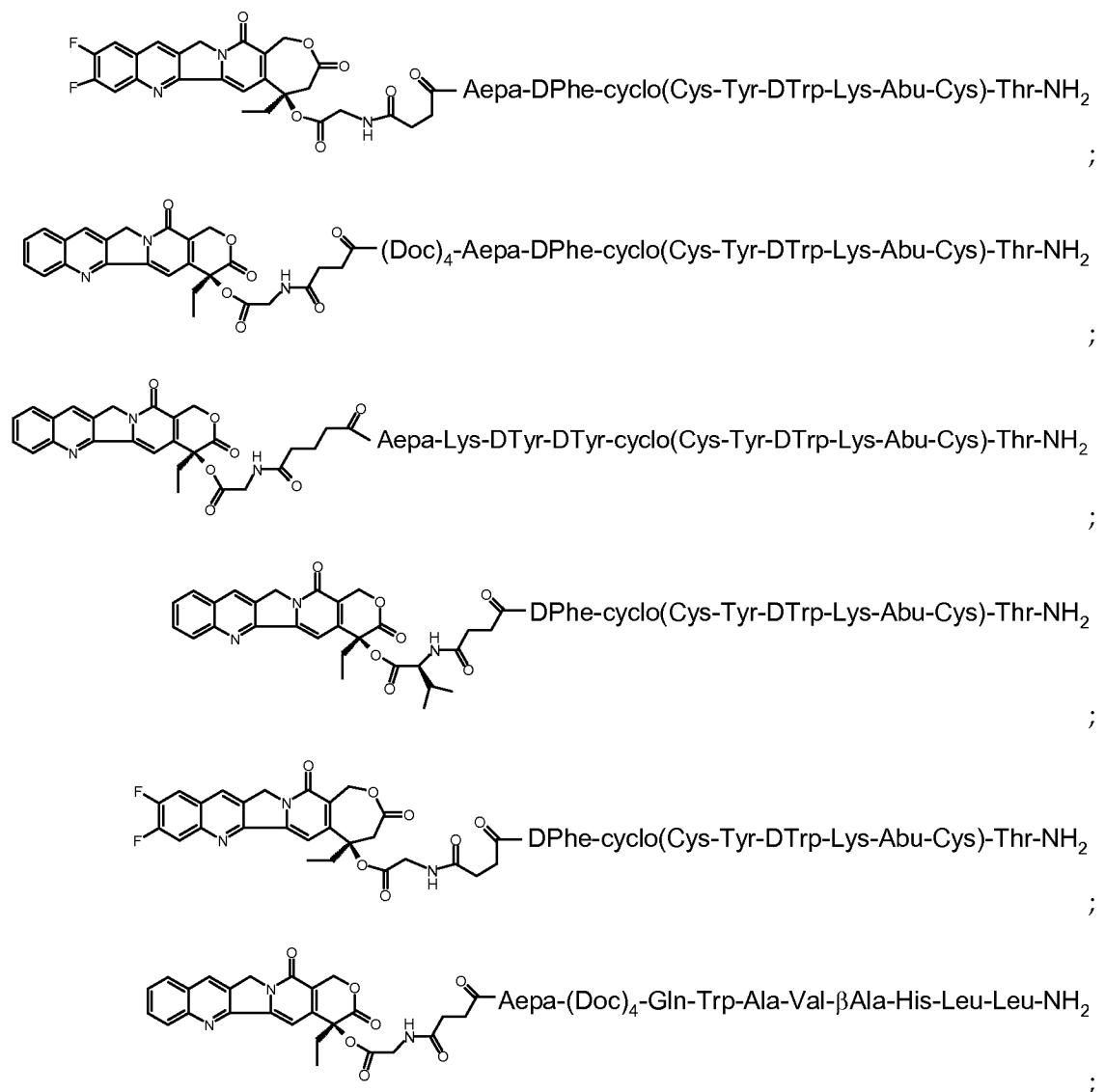
-D^LPhe-Gln-Trp-Ala-Val-Gly-His-Phe-Met-NH₂;

-D^LPhe-Gln-Trp-Ala-Val-Gly-His-Leu-Leu-NH₂; or
or a pharmaceutically acceptable salt thereof.

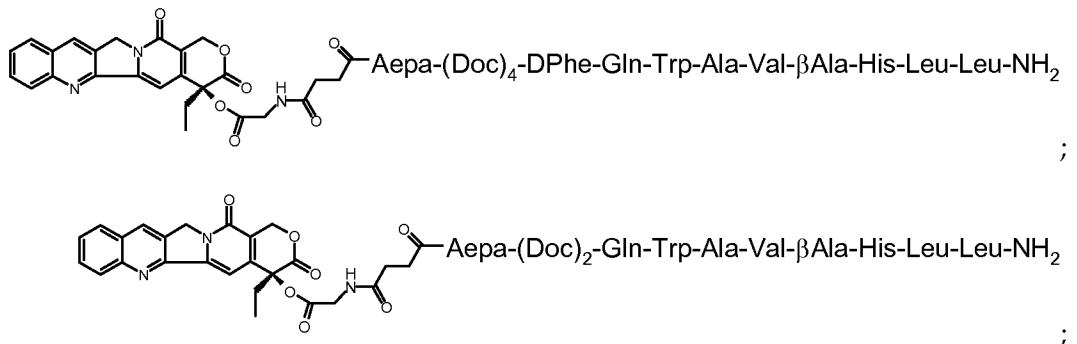
13. (Currently amended) A The compound according to claim 1, wherein at least one of m and n is not 0; or a pharmaceutically acceptable salt thereof.

14. (currently amended) A The compound according to claim 1, wherein said compound comprises the formula according to is:

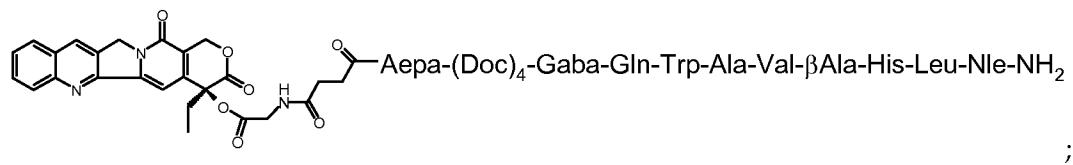
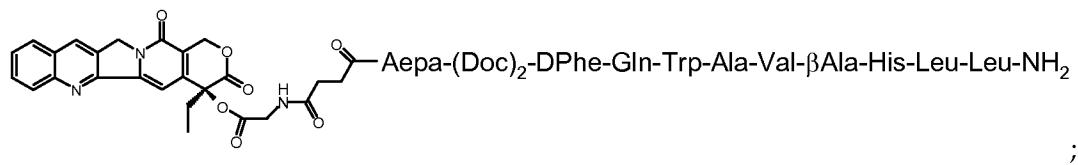




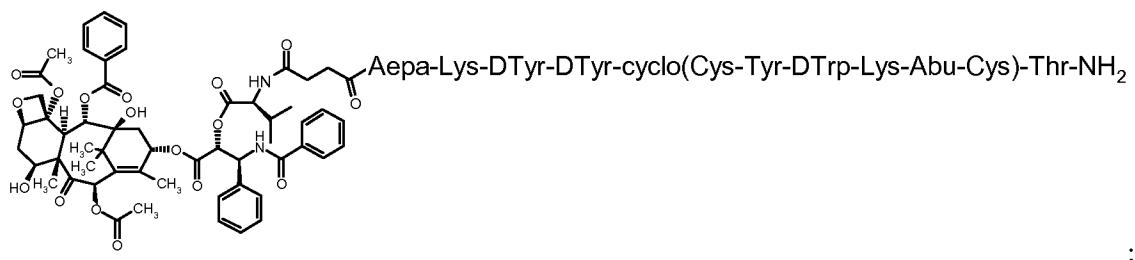
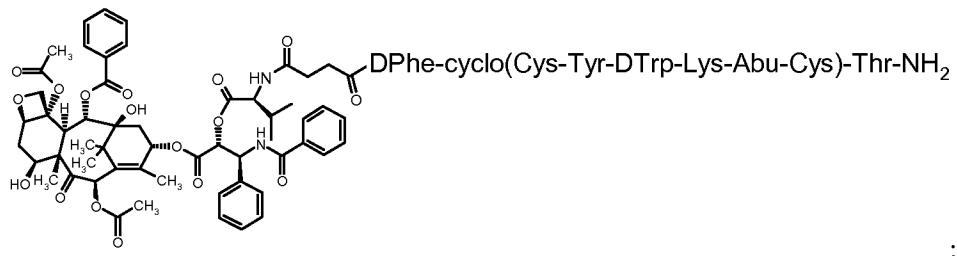
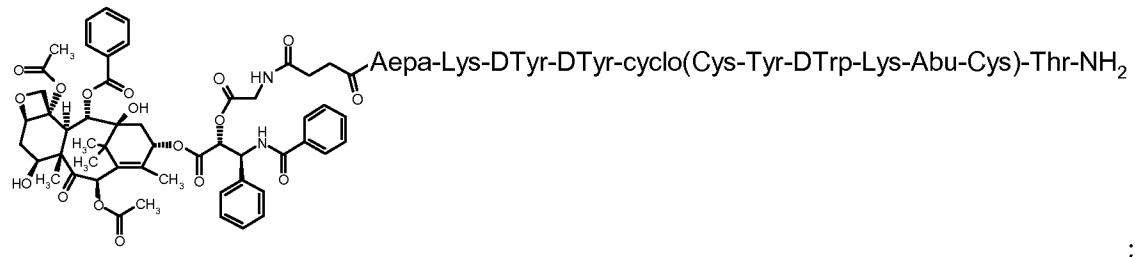
(SEQ ID NO: 16)

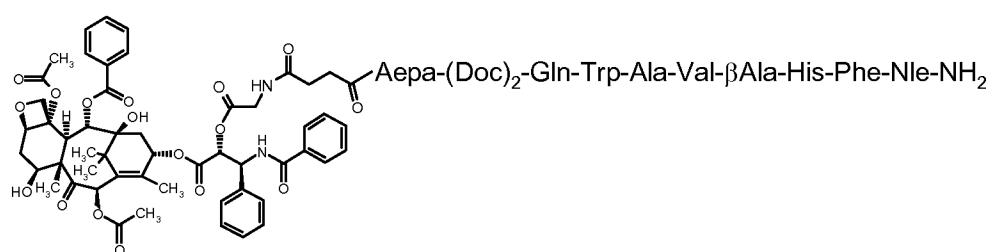
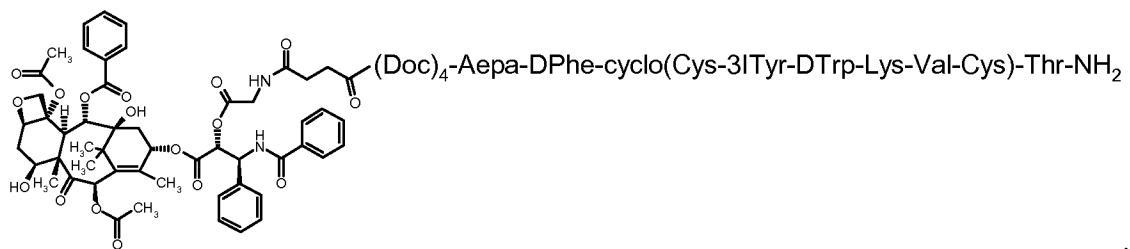
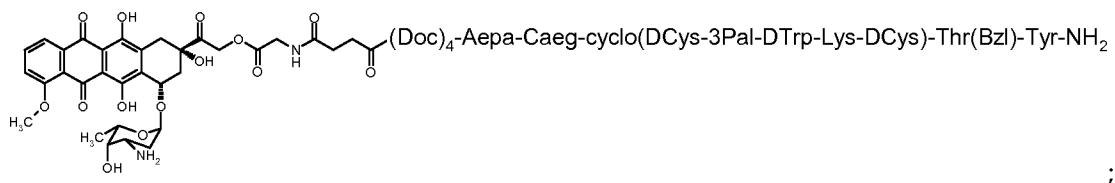
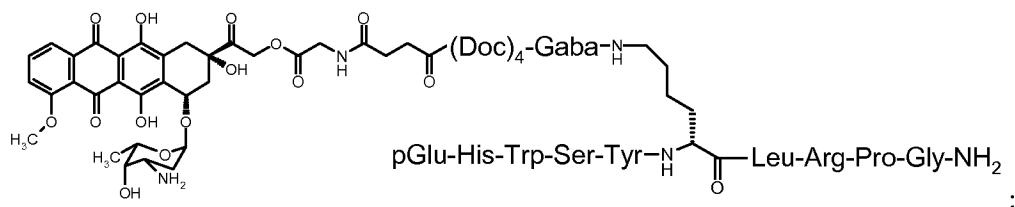
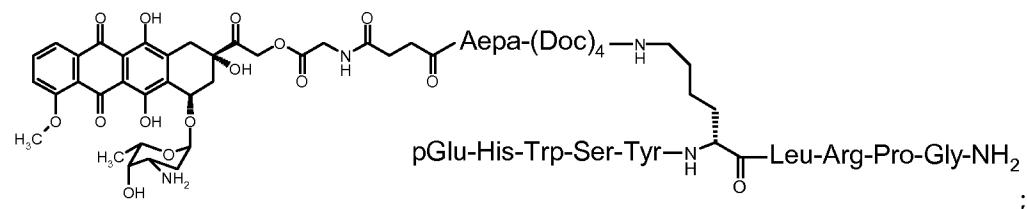


(SEQ ID NO: 16)

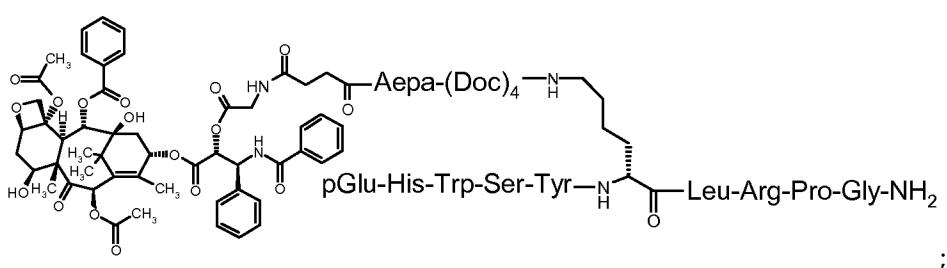


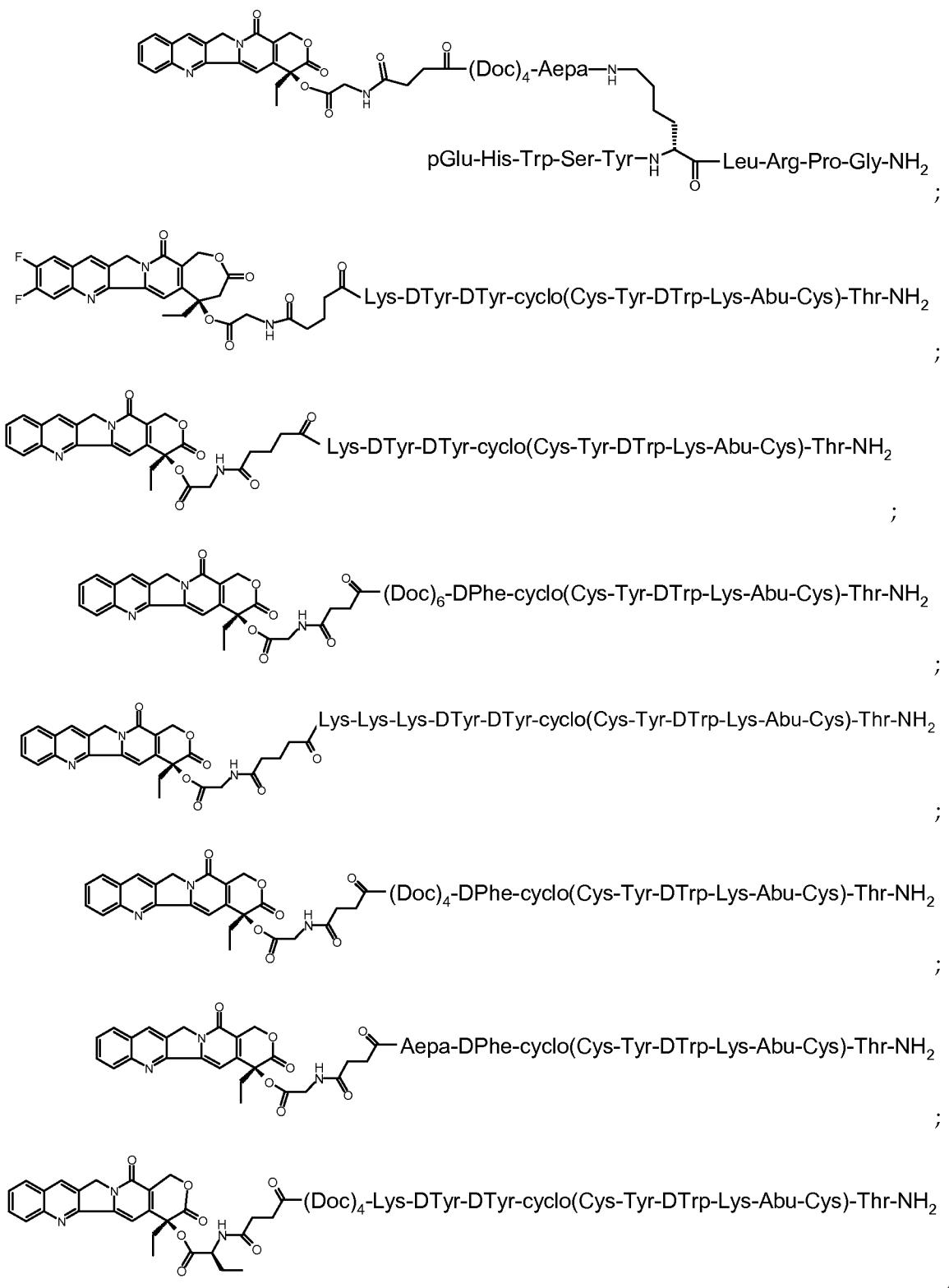
(SEQ ID NO: 17)

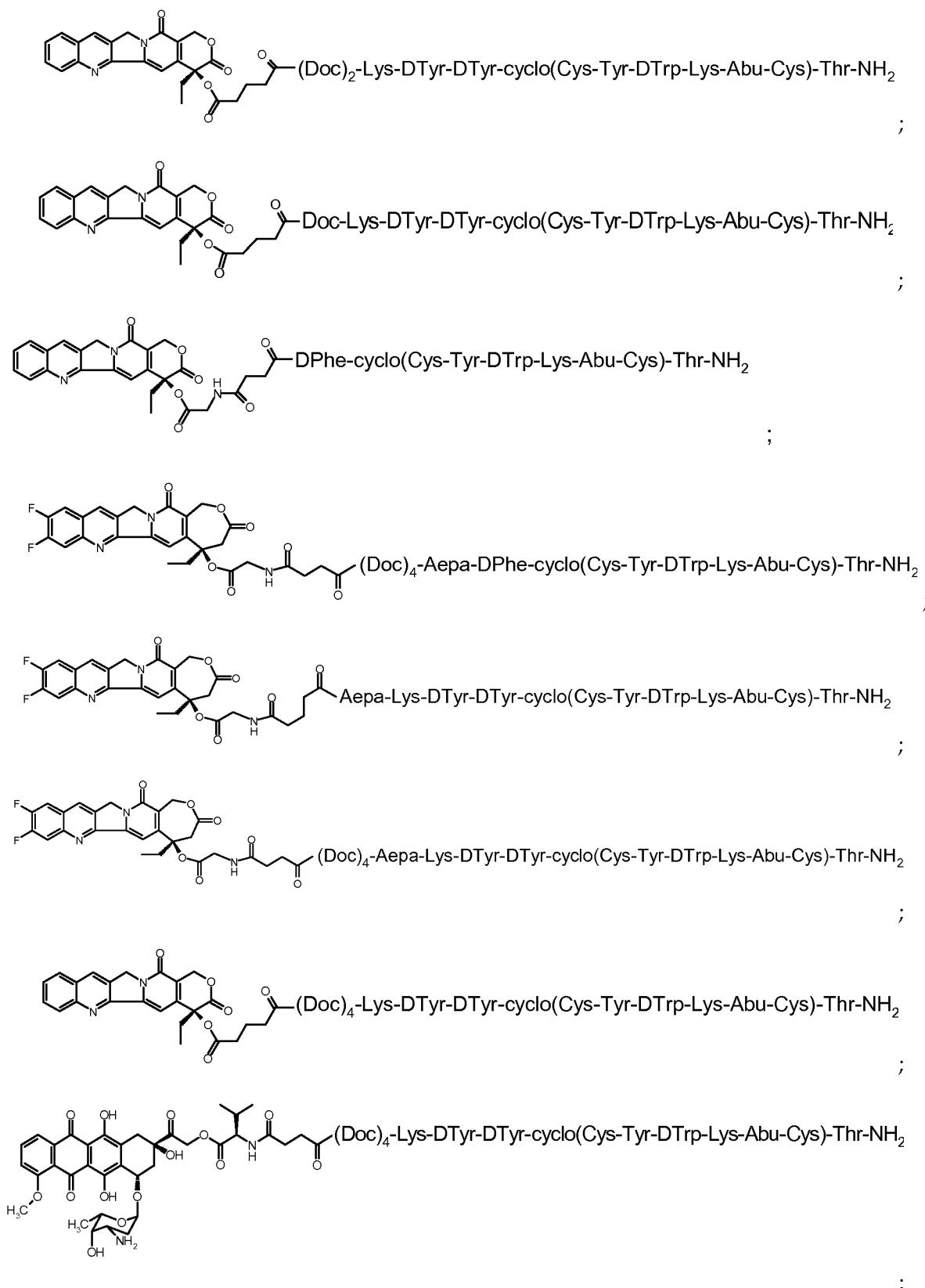


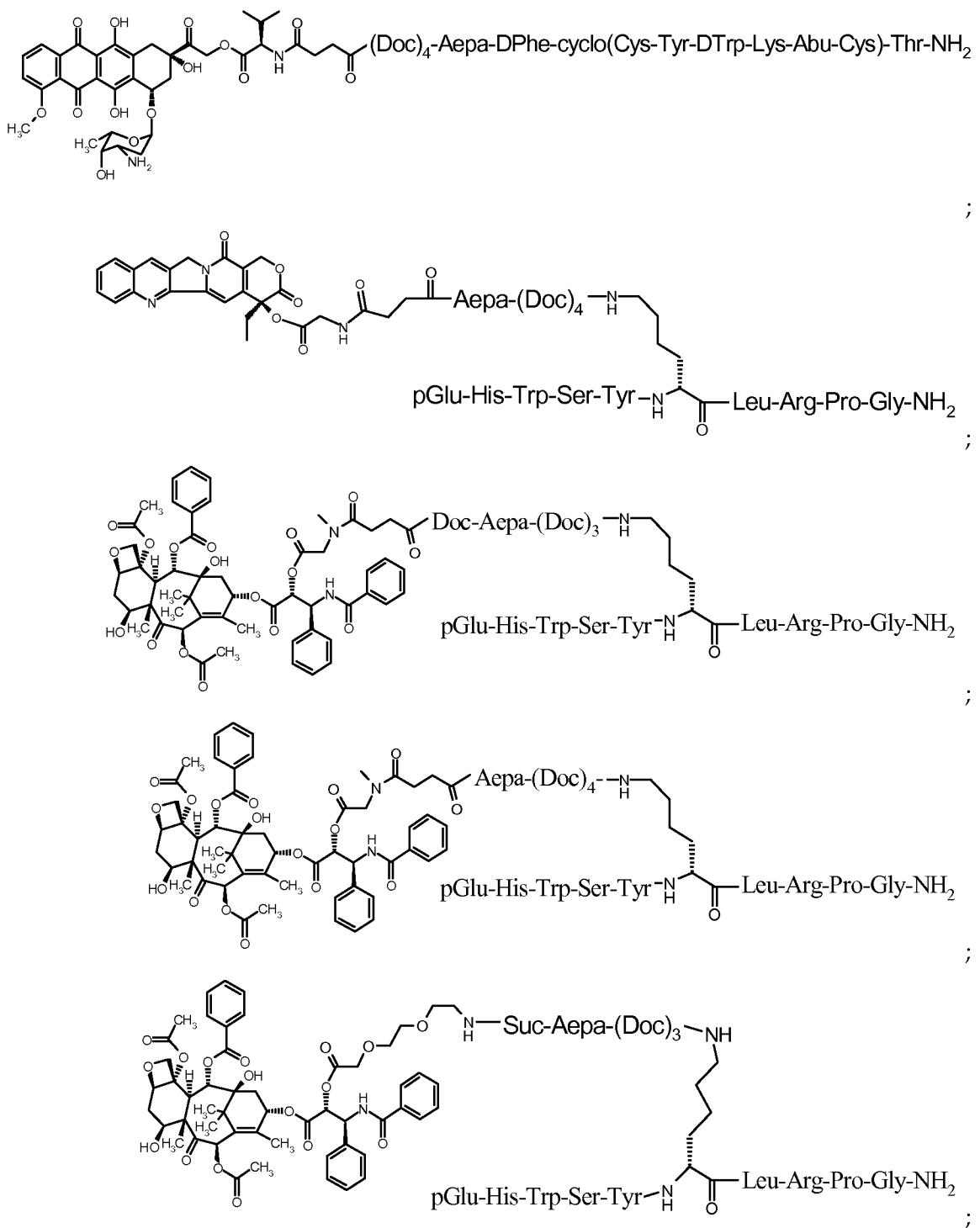


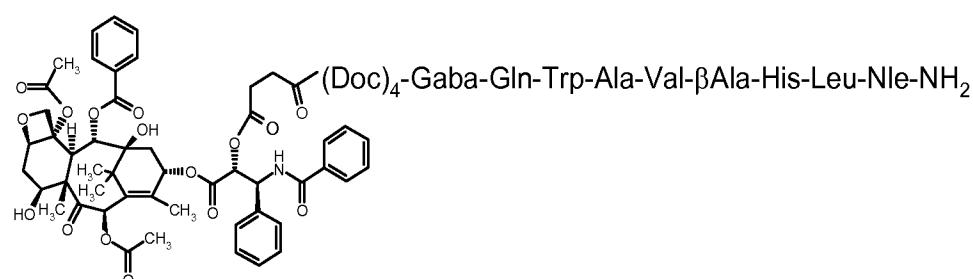
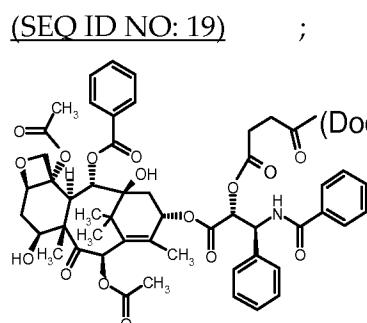
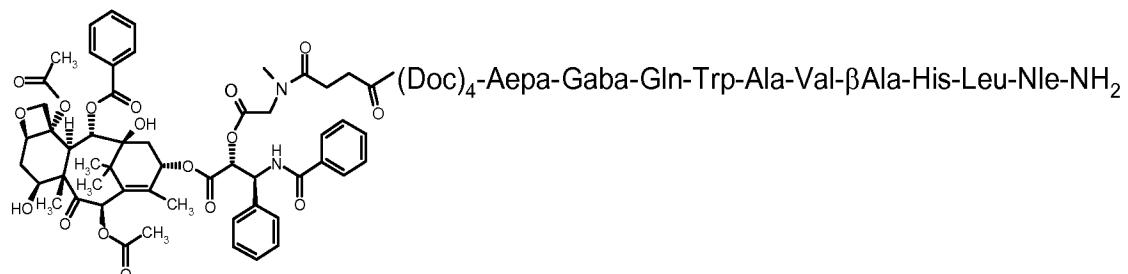
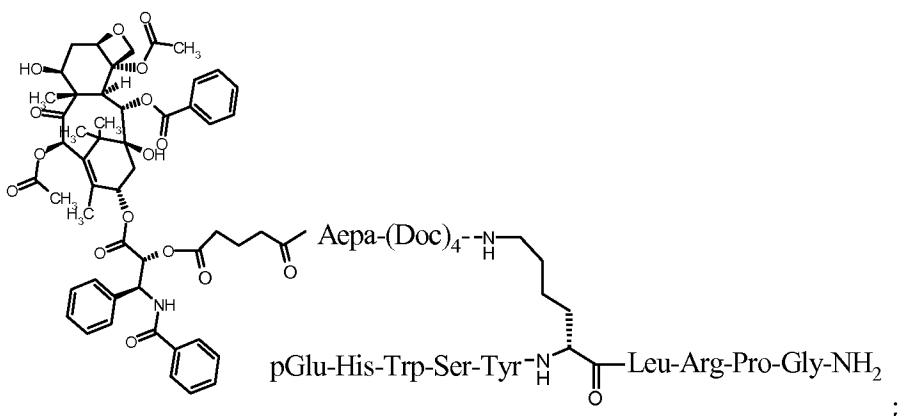
(SEQ ID NO: 18)



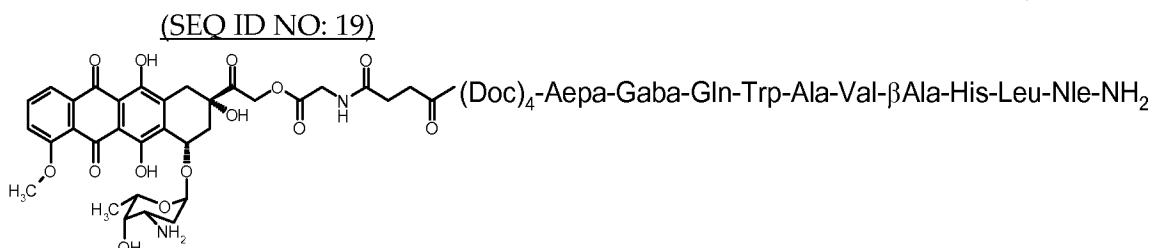
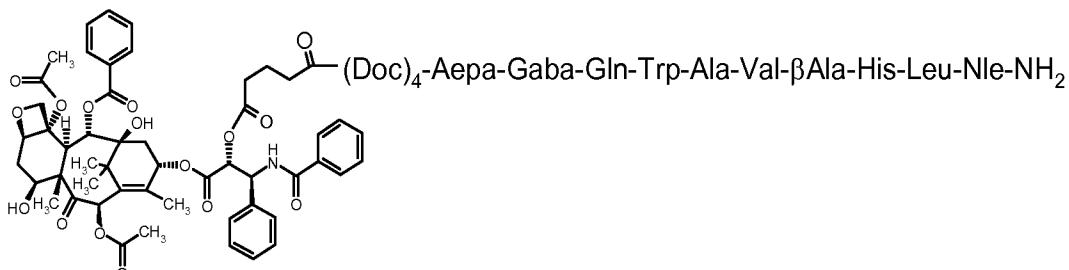
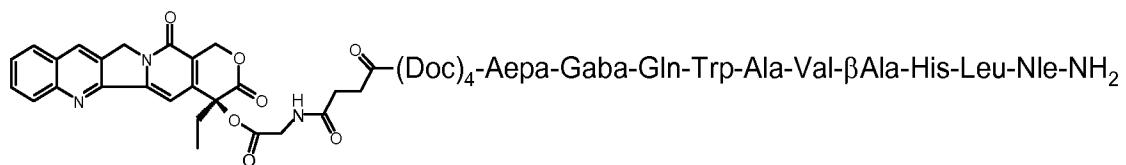




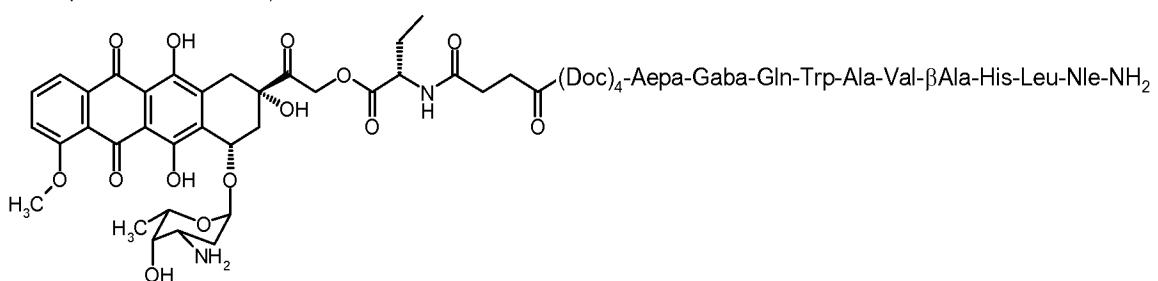




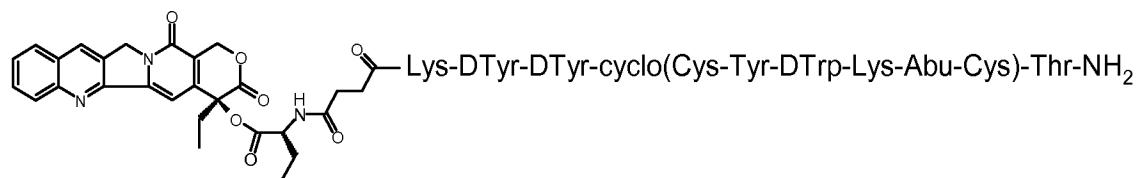
(SEQ ID NO: 19)

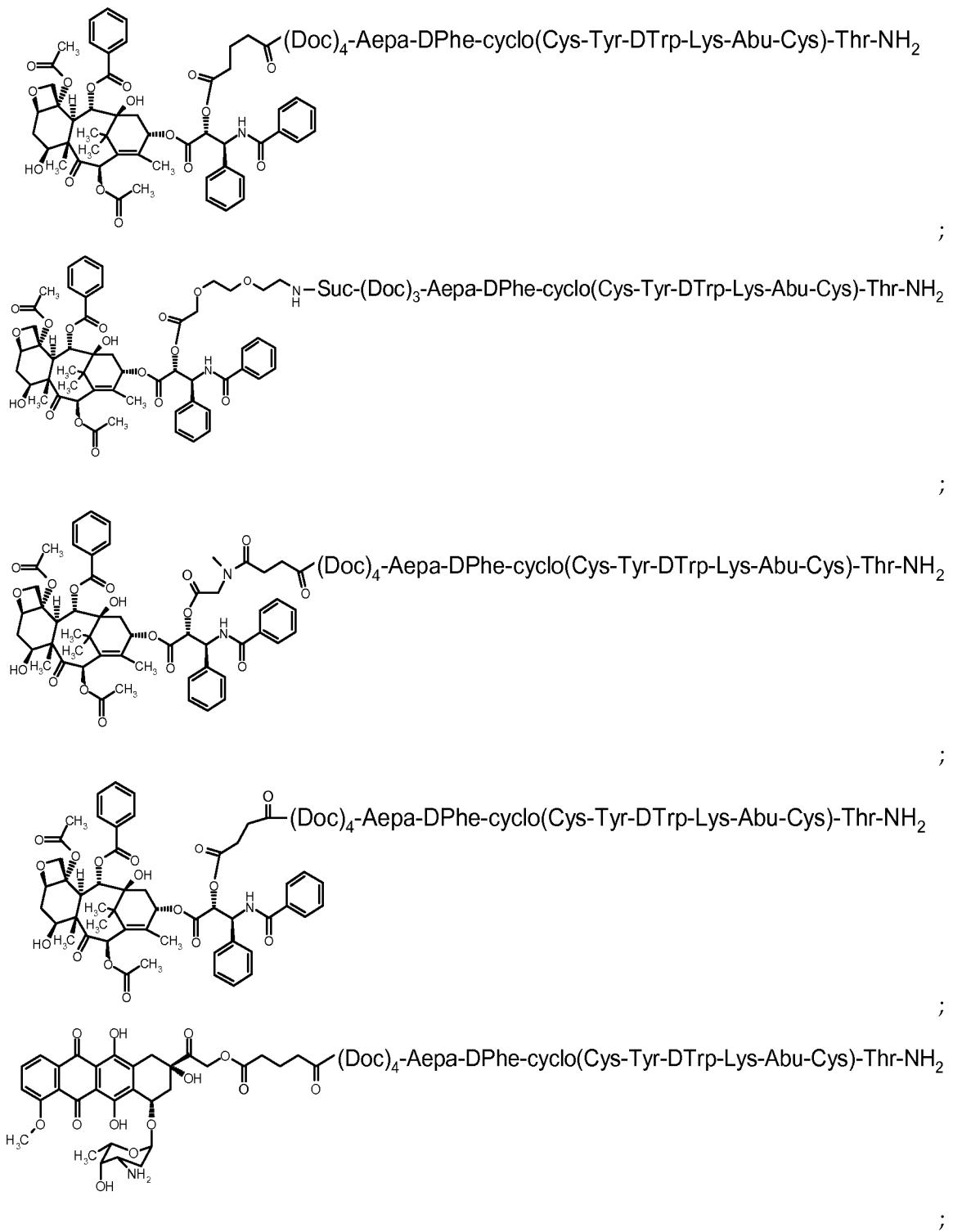


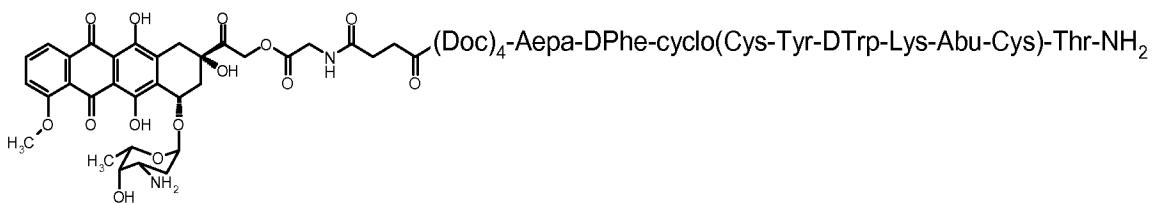
(SEQ ID NO: 19) ;



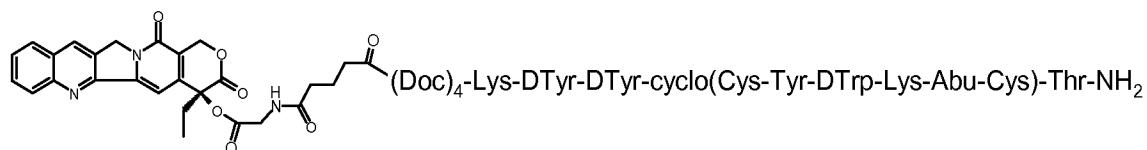
(SEQ ID NO: 19) ;







;

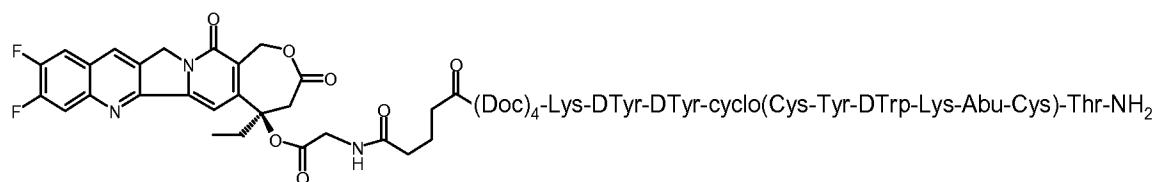


;

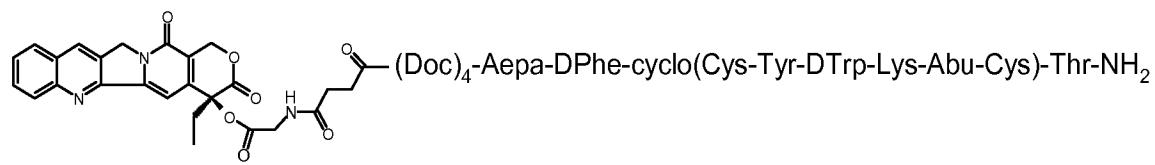
or

a pharmaceutically acceptable salt thereof.

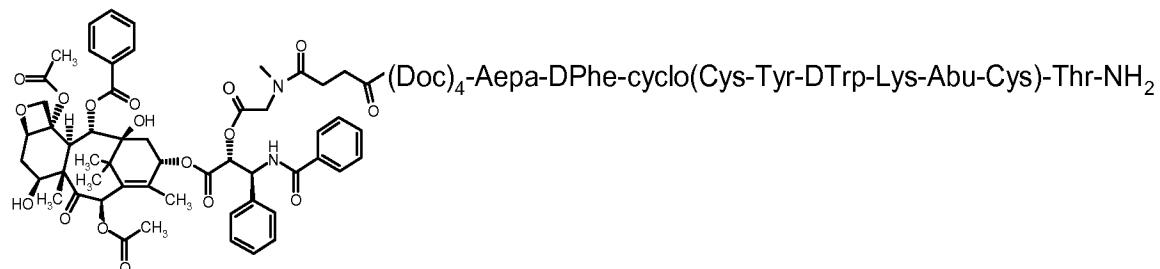
15. (Currently amended) A the compound according to claim 13, wherein the formula comprises: said compound is:



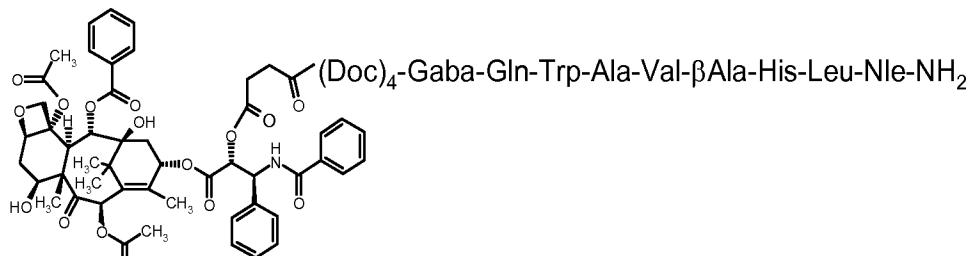
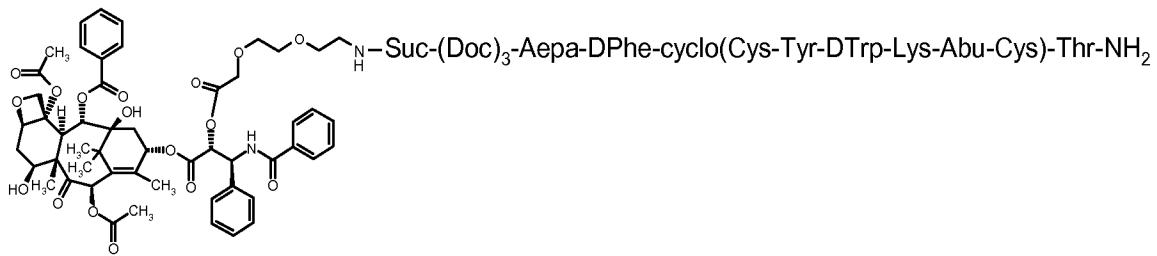
;



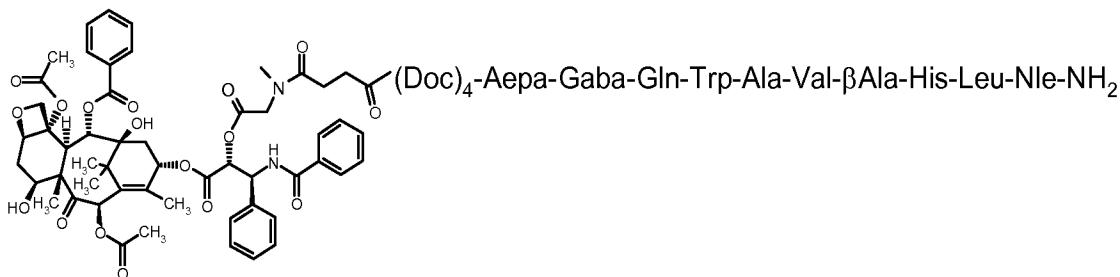
;



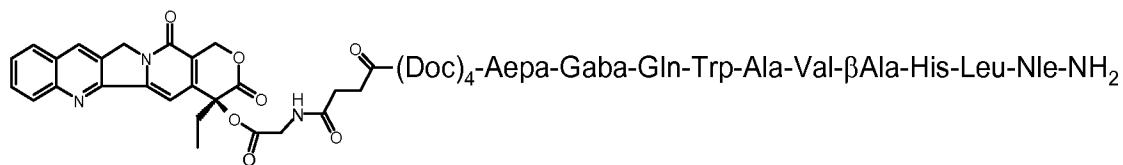
;



(SEQ ID NO: 19)



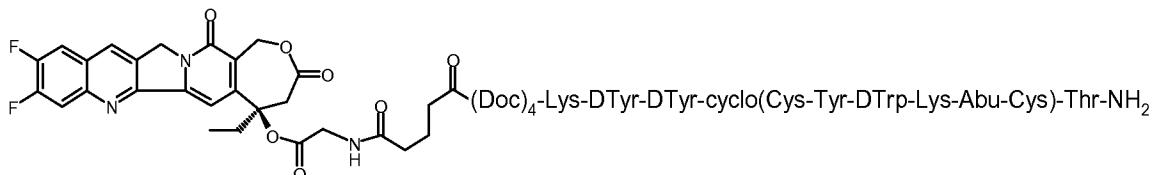
(SEQ ID NO: 19) or



(SEQ ID NO: 19) or

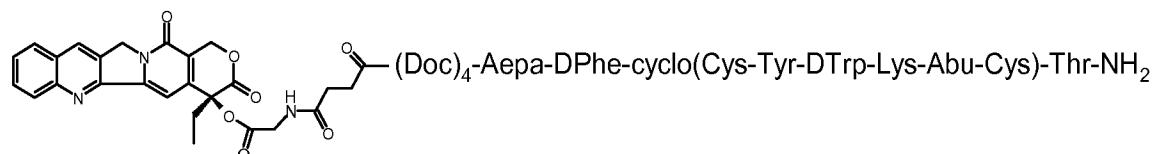
a pharmaceutically acceptable salt thereof.

16. (currently amended) The compound according to claim 14, wherein said compound ~~comprises the formula:~~ is



a pharmaceutically acceptable salt thereof.

17. (currently amended) The compound according to claim 14, wherein said compound ~~comprises the formula:~~ is



a pharmaceutically acceptable salt thereof.

18. (withdrawn- currently amended) A The compound useful as an intermediate in a chemical synthesis, wherein said intermediate comprises a compound according to the formula of

H-Lys(Boc)-DTyr(tBu)-DTyr(tBu)-Cys(Trt)-Tyr(tBu)-DTrp(Boc)-Lys(Boc)-Abu-Cys(Trt)-Thr(tBu)-Rink Amide MBHA Resin;

H-Doc-Doc-Doc-Lys(Boc)-DTyr(tBu)-DTyr(tBu)-Cys(Trt)-Tyr(tBu)-DTrp(Boc)-Lys(Boc)-Abu-Cys(Trt)-Thr(tBu)-Rink Amide MBHA Resin;

H-Doc-Doc-Doc-Doc-Lys(Boc)-DTyr(tBu)-DTyr(tBu)-Cys(Trt)-Tyr(tBu)-DTrp(Boc)-Lys(Boc)-Abu-Cys(Trt)-Thr(tBu)-Rink Amide MBHA Resin;

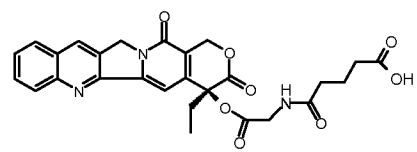
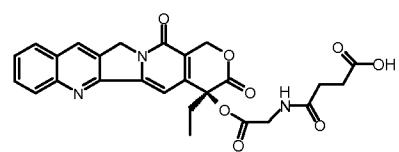
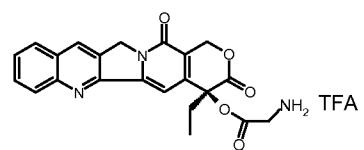
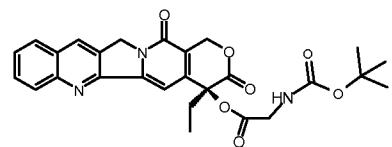
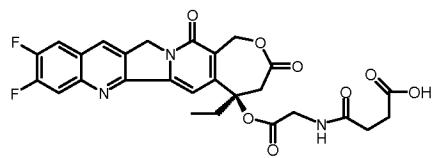
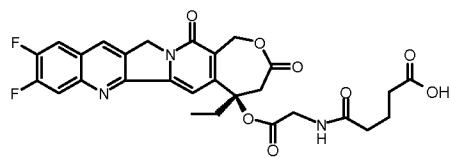
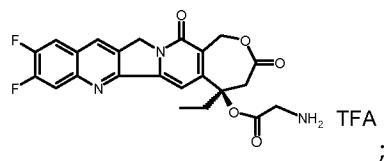
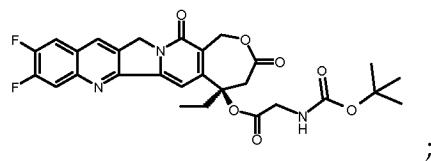
H-Aepa-Lys(Boc)-DTyr(tBu)-DTyr(tBu)-Cys(Trt)-Tyr(tBu)-DTrp(Boc)-Lys(Boc)-Abu-Cys(Trt)-Thr(tBu)-Rink Amide MBHA Resin;

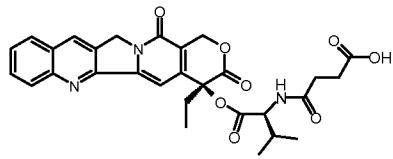
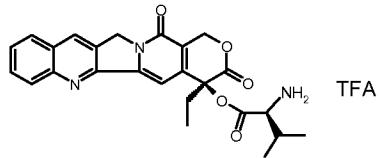
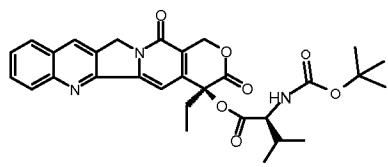
H-Doc-Doc-Doc-Doc-Aepa-Lys(Boc)-DTyr(tBu)-DTyr(tBu)-Cys(Trt)-Tyr(tBu)-DTrp(Boc)-Lys(Boc)-Abu-Cys(Trt)-Thr(tBu)-Rink Amide MBHA Resin;

H-DPhe-Cys(Trt)-Tyr(tBu)-DTrp(Boc)-Lys(Boc)-Abu-Cys(Trt)-Thr(tBu)-Rink Amide MBHA Resin;

H-Aepa-DPhe-Cys(Trt)-Tyr(tBu)-DTrp(Boc)-Lys(Boc)-Abu-Cys(Trt)-Thr(tBu)-Rink

Amide MBHA Resin;





H-Aepa-(Doc)₄-Gln(Trt)-Trp(Boc)-Ala-Val-βAla-His(Trt)-Leu-Leu-Rink Amide MBHA Resin; (SEQ ID NO: 16)

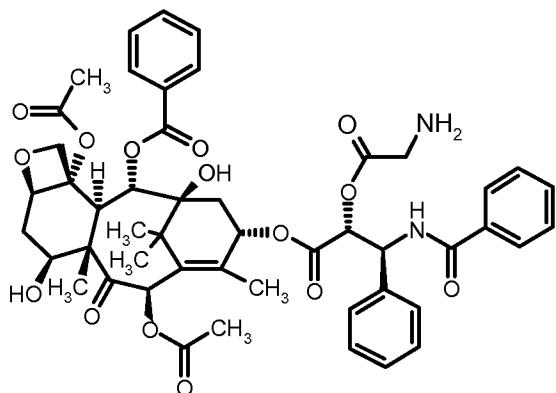
H-Aepa-(Doc)₄-DPhen-Gln(Trt)-Trp(Boc)-Ala-Val-βAla-His(Trt)-Leu-Leu-Rink Amide MBHA Resin;

pGlu-His(Trt)-Trp(Boc)-Ser(tBu)-Tyr(tBu)-DLys[N^c-Aepa]-Leu-Arg(Pbf)-Pro-Gly-Rink Amide MBHA Resin;

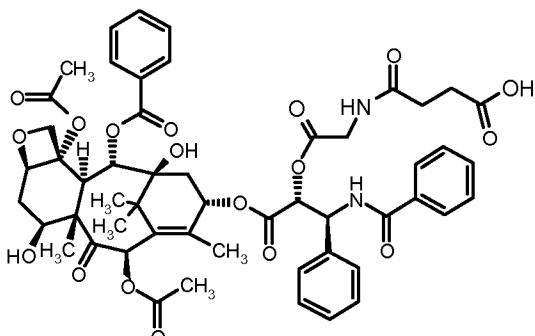
pGlu-His(Trt)-Trp(Boc)-Ser(tBu)-Tyr(tBu)-DLys[N^c-(Aepa-(Doc)₄)]-Leu-Arg(Pbf)-Pro-Gly-Rink Amide MBHA Resin;

H-(Doc)₄-Aepa-Caeg-DCys(Trt)-3Pal-DTrp(Boc)-Lys(Boc)-DCys(Trt)-Thr(Bzl)-Tyr(tBu)-Rink Amide MBHA Resin;

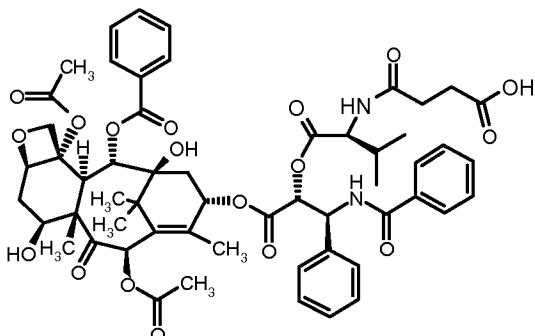
H-(Doc)₄-Aepa-DPhen-Cys(Trt)-3ITyr-DTrp(Boc)-Lys(Boc)-Val-Cys(Trt)-Thr(tBu)-Rink Amide MBHA Resin;



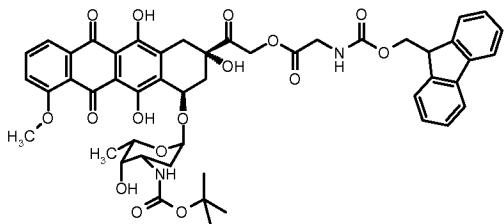
;



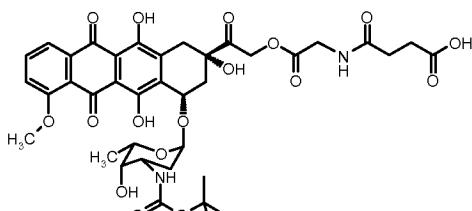
;



;



;



;

H-DPhe-Cys(Trt)-Tyr(tBu)-DTrp(Boc)-Lys(Aloc)-Abu-Cys(Trt)-Thr(tBu)-Rink-Amide-MBHA-Resin;

Fmoc-Aepa-DPhe-Cys(Trt)-Tyr(tBu)-DTrp(Boc)-Lys(Aloc)-Abu-Cys(Trt)-Thr(tBu)-Rink-Amide-MBHA-Resin;

H-Doc-Doc-Doc-Aepa-DPhe-Cys(Trt)-Tyr(tBu)-DTrp(Boc)-Lys(Aloc)-Abu-Cys(Trt)-Thr(tBu)-Rink-Amide-MBHA-Resin;; or

H-Doc-Doc-Doc-Aepa-DPhe-Cys(Trt)-Tyr(tBu)-DTrp(Boc)-Lys(Aloc)-Abu-Cys(Trt)-Thr(tBu)-Rink-Amide-MBHA-Resin;; or

an organic or inorganic salt thereof.

19. (cancelled).

20. (previously presented) A pharmaceutical composition comprising an effective amount of a compound according to claim 1 or a pharmaceutically acceptable salt thereof and a pharmaceutically acceptable carrier.

21. (withdrawn) A method of treating a disease in a subject in need thereof, said method comprising administering to said subject a therapeutically effective amount of a compound according to claim 1, or a pharmaceutically acceptable salt thereof, wherein said disease is selected from the group consisting of fibrosis, benign prostatic hyperplasia, atherosclerosis, restenosis, breast cancer, colon cancer, pancreas cancer, prostate cancer, lung cancer, small cell lung cancer, ovarian cancer, epidermal cancer, and hematopoietic cancer.

22. (withdrawn) A method of treating a disease in a subject in need thereof, said method comprising administering to said subject a therapeutically effective amount of a compound according to claim 1, or a pharmaceutically acceptable salt thereof, wherein said disease is selected from the group consisting of benign prostatic hyperplasia, restenosis, breast cancer, colon cancer, pancreas cancer, prostate cancer, lung cancer, small cell lung carcinoma, ovarian cancer, epidermal cancer, and hematopoietic cancer.
23. (withdrawn) A method of treating a disease in a subject in need thereof, said method comprising administering to said subject a therapeutically effective amount of a compound of claim 1, or a pharmaceutically acceptable salt thereof, wherein said disease is characterized by undesired proliferation of cells that express one or more somatostatin-type receptors.
24. (withdrawn) A method of treating a disease in a subject in need thereof, said method comprising administering to said subject a therapeutically effective amount of a compound of claim 1, or a pharmaceutically acceptable salt thereof, wherein said disease is characterized by undesired proliferation of cells that express one or more of bombesin-type receptors.
25. (withdrawn) A method of treating a disease in a subject in need thereof, said method comprising administering to said subject a therapeutically effective amount of a compound of claim 1, or a pharmaceutically acceptable salt thereof, wherein said disease is characterized by undesired proliferation of cells that express one or more LHRH-type receptors.